Clinical features of patients with heart failure and renal dysfunction

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**Background:** Because renal function is affected by chronic heart failure (CHF) and it relates to both cardiovascular and hemodynamic properties, it should have additional prognostic value. We studied whether renal function is a predictor for clinical outcomes CHF and relation to echocardiographic parameters in these patients.

**Methods and Results:** The study population consisted of 1284 patients with CHF. The glomerular filtration rate (GFR) was calculated using the Modification of diet in renal disease (MDRD). We divided Patients on 4 groups: GFR>60ml/min/1,73m2 (group 1=296 patients, 23%), Mean GFR in severe RD patients was 9.4±3.59ml/min/1,73m2 (group 4), 24.6±3.59 in group 3, 46.3±7.8 in group 2 and 73.4±15.7 in group 1.

Compared to 296 (23%) patients with preserved GFR, they had more comorbidities and more frequently ischemic etiology of HF.

Patients with renal insufficiency had low functional capacity during six minute walking, more left bundle branch block (p<0.00001), more left ventricular hypertrophy (p=0.02), more systolic dysfunction and more Increased E/A (p<0.00001). Beta-blockers were used less frequently in those patients (p<0.0001) who receive high dose of diuretic (p<0.00001), ACE (p<0.00001) and amiodarone (p<0.01).

**Conclusions:** Renal insufficiency is more prevalent in patients with heart failure and is prognostic factor in functional capacity, diastolic and systolic dysfunction.

Impact of elevated heart rate on clinical outcomes in patients with chronic heart failure with reduced ejection fraction

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**Background:** Elevated heart rate (HR) is associated with higher mortality and morbidity in patients with heart failure (HF). This study is aimed to evaluate the clinical significance of heart rate in predicting the prognosis in patients with chronic heart failure (CHF).

**Methods:** We enrolled 1581 consecutive CHF (mean age 68.1 years) registered in the Therapeutic Unit of Chronic Heart Failure. We divided the patients into 2 groups: group 1 with HR≤50 bpm, group 2 with HR>70 bpm. The relationships between HR and the prognosis of CHF patients were determined.

**Results:** Elevated HR was associated with male sex, hypertension, diabetes, stroke attack and ischemic heart disease, but the association was modest with obesity. CHF patients with NYHA grade III/IV had higher HR than those with NYHA grade I/II with a good correlation. High HR correlated with increased cardiac decompensation and hospitalizations (p<0.0001), elevated filling pressure (p<0.0001). Also, there were statistical differences in atrial fibrillation between the group 1 and 2. Furthermore, ?-Blocker therapy and Ivabradine were associated with reduced HR (p<0.0001). We also observed negative correlations between HR and hemoglobin, glomerular filtration rate (GFR) were also found.

**Conclusions:** Elevated HR was associated with increased cardiac decompensation and hospitalization. It may have good clinical predictive value in patients with CHF and should be a distinct therapeutic target.

Analysis of electrocardiographic abnormalities in chronic heart failure: about 1622 cases (UTIC registry)

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**Introduction:** The electrocardiogram (ECG) is an important tool in the initial evaluation of patients with congestive heart failure and in the monitoring of these patients. The purpose of this work is to describe the different electrocardiographic abnormalities encountered in patients monitored for chronic heart failure.

**Methods:** A retrospective study of major electrocardiographic abnormalities, involving 1622 patients with chronic heart failure, followed in the heart failure processing unit (UTIC) of UH Ibn Rochd of Casablanca, between January 2008 and October 2014.

**Results:** The mean age of patients was 68.6 years (± 12 years, ranging from 18 to 104 years), with a sex ratio of 1.67. The main cardiovascular risk factors identified were: hypertension (46.1%), diabetes (38.8%), tobacco (38.6%) and dyslipidemia (14.9%) cases. The etiology of heart failure was in order of frequency: ischemic heart disease (55.6%), DCM (27.5%), hypertensive heart disease (9.8 %) and valvulopathy (5.7%). The major electrocardiographic abnormalities were: repolarization disorders (41.9%), the Q wave-necrosis (18.7 %) and atrial fibrillation (11.8%). The conduction disorders have been dominated by the left bundle branch block (23.9 %), followed by the first atrio-ventricular block (11.02%). The signs of cavitary hypertrophy was noted especially on the left side: left ventricular hypertrophy was observed in 11.4% of cases, while the left atrial hypertrophy was observed in 3.3 % of cases. Recorded rhythm disorders had been dominated by the atrial fibrillation (11.8%) followed by the ventricular rhythm disorder (8.8%).

**Conclusion:** Electrocardiographic abnormalities are common in patients with chronic heart failure and a normal ECG must review the diagnosis. The control of rhythm disorders and prevention of its complications is a major pillar in the management of chronic heart failure.

The impact of diurnal fasting during Ramadan on patients with chronic heart failure

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**Objective:** To determine the clinical and biochemical effects of fasting during Ramadan on patients with chronic heart failure.

**Methods:** Fifty-three outpatients with chronic heart failure with intention to fast were studied in the month of Ramadan 2014 (1435 Hijri) at the Cardiology departement in Ibn Rochd University hospital, Casablanca, Morocco. Detailed clinical and biochemical assessments were performed within one week before the start of Ramadan and then on the last day of Ramadan.

**Results:** There were 31 (58.5%) males and 22 (41.5%) females with a mean age of 60±11 years (range, 34-88). Thirty eight patients (71.1%) had coronary artery disease, 10 patients (18.9%) had dilated cardiomyopathy, 2 patients (3.8%) had valvular heart disease, one patient (1.9%) had toxic cardiomyopathy secondary to chemotherapy, one patient had hypertensive cardiomyopathy and another patient had Meadows cardiomyopathy. Forty-two patients (79.2%) were in New York Heart Association (NYHA) Class I, 11 patients (20.8%) in Class II. Forty-nine patients (92.4%) managed to fast during the entire Ramadan, 4 patients (7.5%) missed the fasting for up to 10 days. There were no significant changes in the NYHA Class (p= 0.18) nor there were any significant changes in the Canadian Cardiac Society (CCS) class in patients with coronary artery disease (p=0.09). No significant changes occurred in any of the hematological or biochemical parameters during the fasting of Ramadan.
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Radiotherapy for Breast Cancer and early detection of Cardiotoxicity (REBECCA): a prospective cohort study

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Background: Cardiac toxicity of current breast RT, combining anatomical and functional heart consequences based on cardiac imaging, a panel of circulating biomarkers and a detailed heart dosimetry. With this approach, REBECCA aims to improve understanding of the mechanisms and circumstances that underlie the development of potential heart side effects and sequelae.

Methods: We performed a single-center retrospective study of patients hospitalized for congestive heart failure in a cardiac intensive care unit.

Results: We included 51 patients. Mean values were for age 76±7, men 54%, body mass index 27±5 kg/m², left ventricular ejection fraction (LVEF) 50±15% from June to December 2013. We assessed the screening for sleep apnea syndrome using Epworth sleepiness scale.

Conclusion: Although Epworth scale is a useful and easy tool, Apnea syndrome remains underdiagnosed. Because of its high prevalence, poor outcome, and the beneficial effects of treatment, cardiologist should be more aware of SAS.

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Long-term cardiac prognosis and risk stratification in 260 adults presenting with mitochondrial diseases

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Background: The long-term cardiac prognosis of adults with mitochondrial diseases is unknown.

Methods and Results: Between January 2000 and May 2014, we retrospectively included in this study 260 consecutive patients (60% women) ≥18 years of age, interquartile range (IQR) = 31 to 54, with genetically proven mitochondrial diseases, including 109 with mtDNA single large-scale deletions, 64 with the m.3243A>G mutation in MT-TL1, 51 with other RT with HT is indicated, without chemotherapy will be eligible for the study. Follow-up will include measures of a panel circulating biomarkers, coronary plaque index based on coronary computed tomography angiography and myocardial strain based on 2D-speckle tracking echocardiography. Absorbed doses will be evaluated for the whole heart and for each different parts of heart, in particular coronary arteries. Analysis will focus on dose-response relationship between subclinical cardiac lesions, biomarkers, and different organ absorbed doses. Furthermore, this study aims to create a bio-bank of plasma and blood of this cohort for future investigations. This clinical research study is a novel approach to early detect cardio-toxicity of current breast RT, combining anatomical and functional heart consequences based on cardiac imaging, a panel of circulating biomarkers and a detailed heart dosimetry. With this approach, REBECCA aims to improve understanding of the mechanisms and circumstances that underlie the development of potential heart side effects and sequelae.